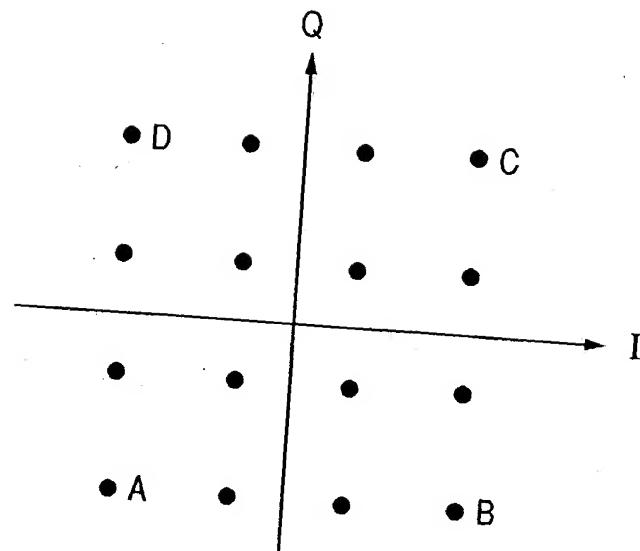


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FIG. 1



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FIG. 3

16-APSK

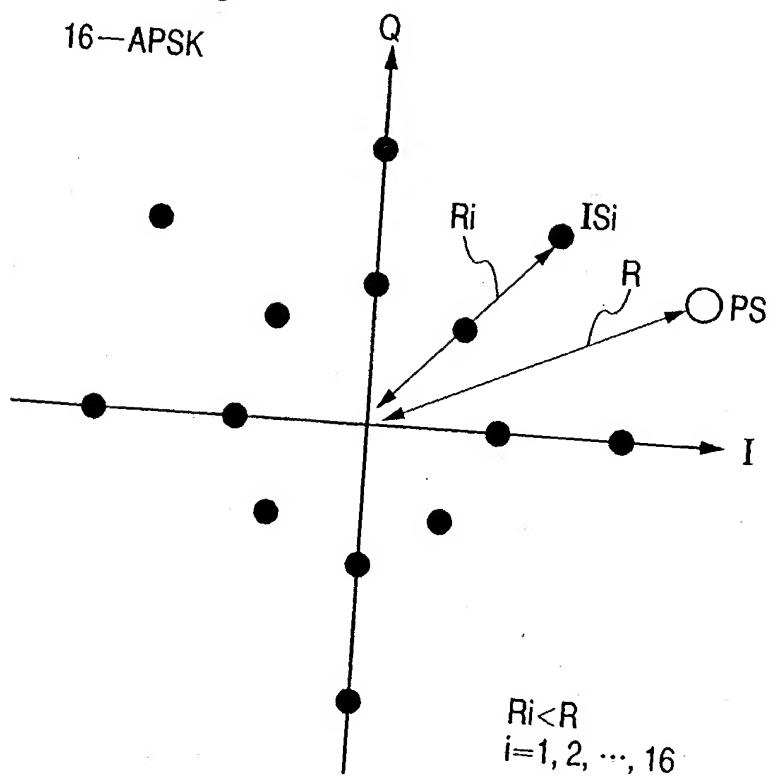


FIG. 2

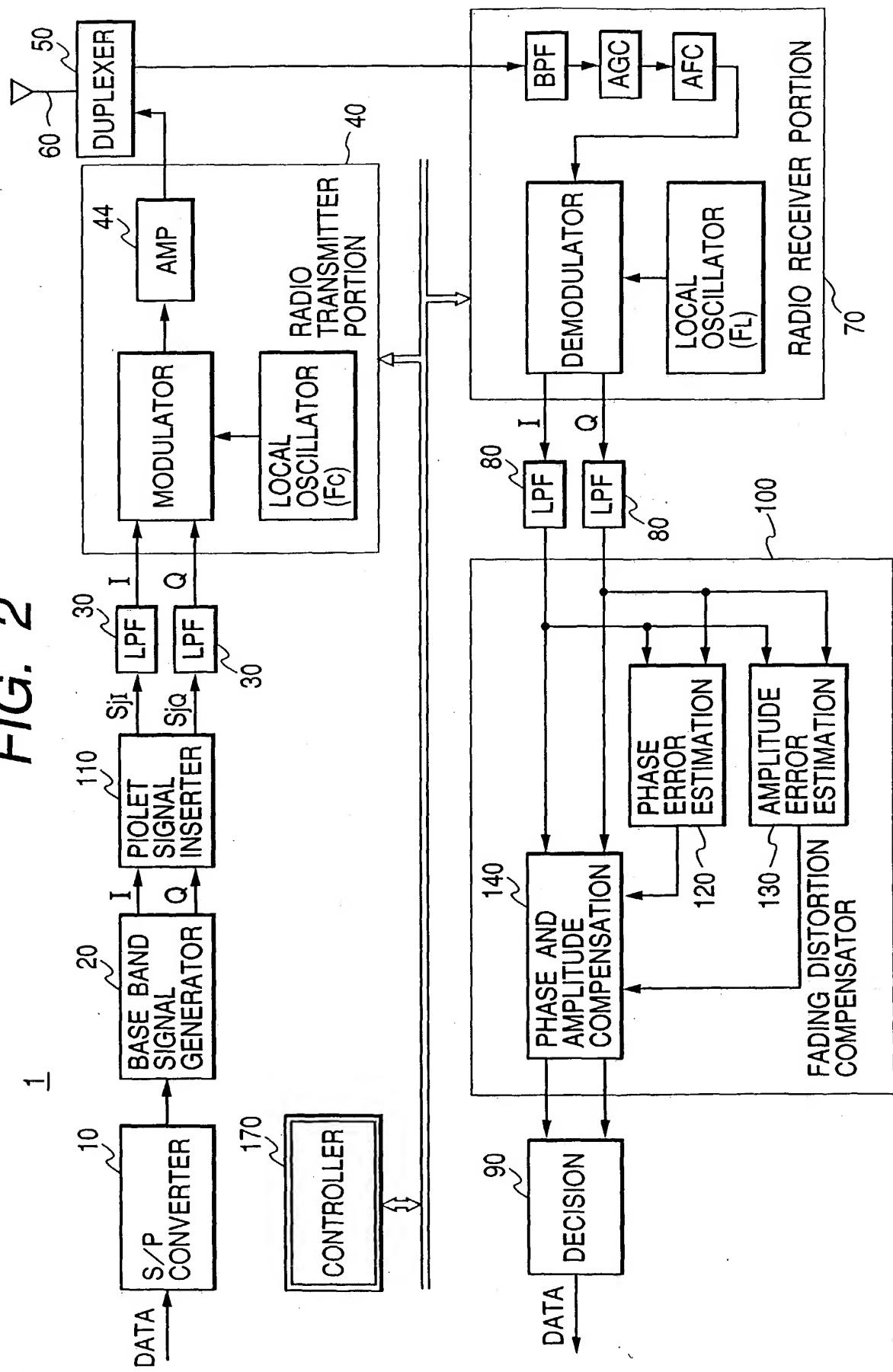
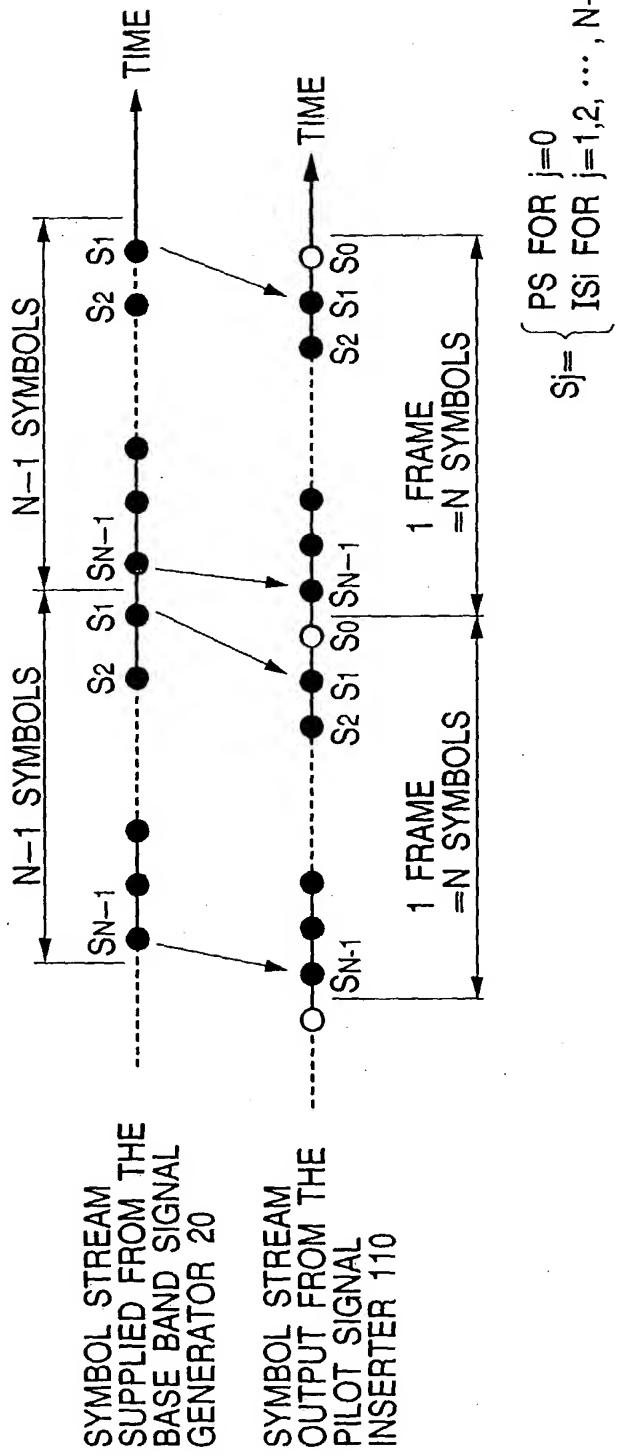
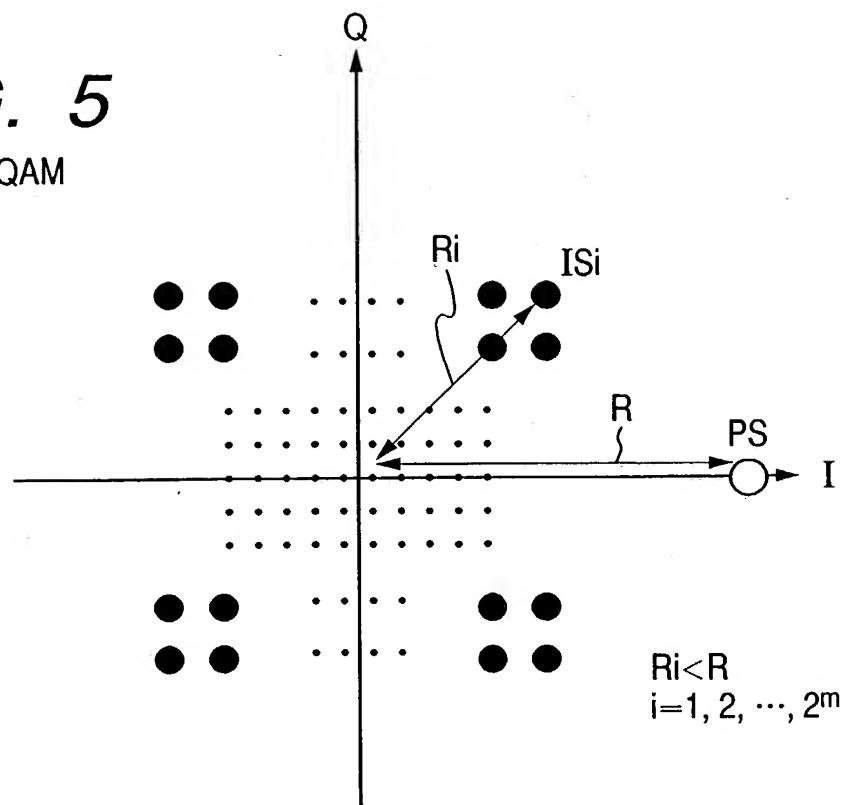


FIG. 4

## OPERATION OF THE PILOT SIGNAL INSERTER 110

- : INFORMATION SYMBOL (IS)  $i=1, 2, \dots, P$   
 P: THE NUMBER OF POSSIBLE STATES  
 O: POLET (OR FRAME) SYMBOL (PS)



**FIG. 5** $2^m$ -QAM**FIG. 6**

16-QAM

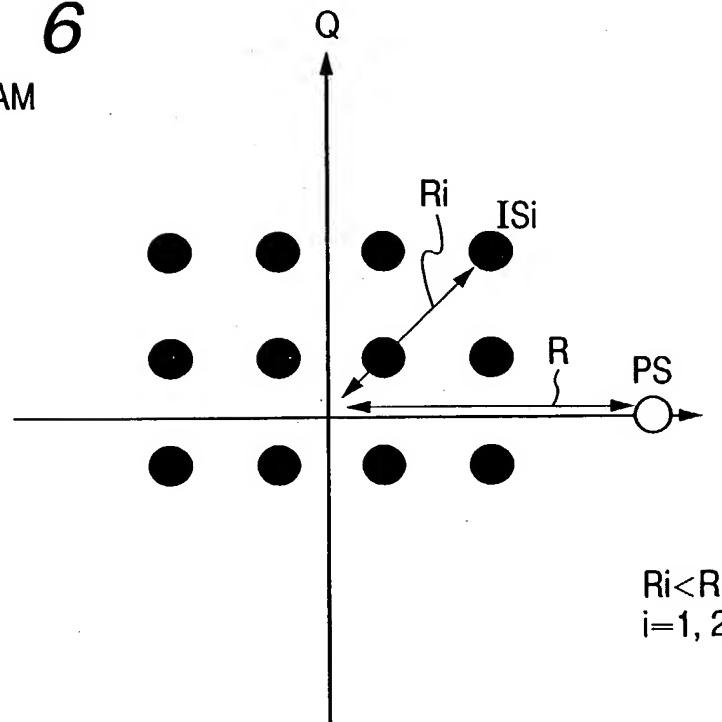


FIG. 7

8-PSK

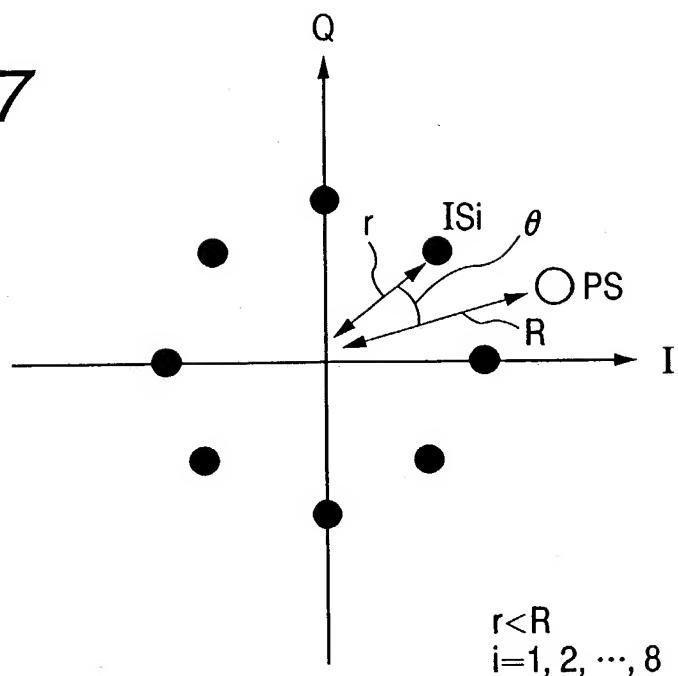


FIG. 8

QPSK

